



Atty. Dkt. No. 024536-0130

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Isamu IIZUKA et al.

Title: APPARATUS AND METHOD FOR ESTIMATING RESIDUAL GAS  
AMOUNT OF INTERNAL COMBUSTION ENGINE, AND  
APPARATUS AND METHOD FOR CONTROLLING INTAKE AIR  
AMOUNT OF INTERNAL COMBUSTION ENGINE USING  
ESTIMATED RESIDUAL GAS AMOUNT

Appl. No.: 10/617,723

Filing Date: 07/14/2003

Examiner: J. H. Hoang

Art Unit: 3747

**TERMINAL DISCLAIMER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Your Petitioner, HITACHI UNISIA AUTOMOTIVE, LTD. , having its principal place of business at 1370, Onna, Atsugi-shi, Kanagawa Japan , represents that it is the owner of the entire right, title, and interest in and to U.S. Patent Application Serial No. 10/617,723, filed 07/14/2003, by virtue of an Assignment filed and recorded on October 10, 2003, on Reel/Frame 014587/0436, in the United States Patent and Trademark Office, a copy of which is attached hereto as APPENDIX A. Further, your Petitioner represents that it is the owner of U.S. Patent No. 6,484,676, which issued on U.S. Patent Application No. 09/887,125, by virtue of an Assignment to UNISIA JECS CORPORATION filed and recorded on June 25, 2001, on Reel/Frame 011938/0512, in the United States Patent and Trademark Office, evidence of which (obtained from the USPTO website) is attached hereto as APPENDIX B, and by virtue of a Change of Name of UNISIA JECS CORPORATION to HITACHI UNISIA AUTOMOTIVE, LTD. recorded on April 2, 2003, on Reel/Frame

01/05/2005 JBALINAN 00000029 10617723

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130.00 OP

013913/0902, in the United States Patent and Trademark Office, evidence of which (obtained from the USPTO website) is attached hereto as APPENDIX C.

Your Petitioner, HITACHI UNISIA AUTOMOTIVE, LTD. , hereby disclaims the terminal part of the term of any patent granted on the above identified patent application which would extend beyond the full statutory term, as shortened by any terminal disclaimer, of U.S. Patent 6,484,676, and hereby agrees that any patent so granted on the above identified patent application shall be enforceable only for and during such period that the legal title to U.S. Patent 6,484,676 shall be the same as the legal title to any patent granted on the above identified patent application, this agreement to run with any patent granted on the above identified patent application and to be binding upon the grantee, its successors or assigns.

In making the above disclaimer, Petitioner does not disclaim any terminal part of any patent granted on the above identified patent application, prior to the full statutory term of U.S. Patent 6,484,676 as defined in 35 U.S.C. §§154-156 and 173, in the event that U.S. Patent 6,484,676 expires for failure to pay a maintenance fee, is held unenforceable or is found invalid in a final judgment by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR §1.321(a), has all claims canceled by a reexamination certificate or as a result of an interference proceeding, or is otherwise not deemed to provide the rights conveyed by 35 USC §154, prior to the full statutory term of U.S. Patent 6,484,676 as defined in 35 USC §§154-156 and 173, except for the separation of legal title stated above. Further, Petitioner does not disclaim any terminal part of a patent granted on the above identified patent application that would extend beyond the present termination of U.S. Patent 6,484,676, in the event that such present term is extended by virtue of compliance with the conditions for term extension of any present or future patent term extension provisions of the patent law, including but not limited to 35 U.S.C. §§155, 155A or 156, and without waiving Petitioner's right to extend the term of a patent granted on the above identified patent application to the extent provided by law.

The undersigned, being the Attorney of Record for the above identified patent application, and duly authorized to act on behalf of Petitioner, certifies that he has reviewed the evidence of the Assignments and Change of Name attached as APPENDICES A-C,

respectively, and to the best of his knowledge and belief, legal title to the above identified patent application and U.S. Patent 6,484,676 rests with Petitioner, HITACHI UNISIA AUTOMOTIVE, LTD. The undersigned declares that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing therefrom.

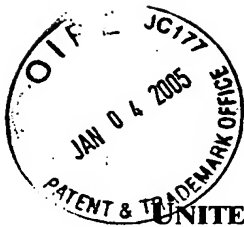
Respectfully submitted,

Date JAN 04 2005

By 

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Richard L. Schwaab  
Attorney for Applicant  
Registration No. 25,479



**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAY 10, 2004

PTAS



\*102576359A\*

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NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 10/10/2003

REEL/FRAME: 014587/0436  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
IIZUKA, ISAMU

DOC DATE: 09/10/2003

ASSIGNOR:  
MACHIDA, KENICHI

DOC DATE: 09/01/2003

ASSIGNOR:  
SHIMIZU, HIROKAZU

DOC DATE: 09/01/2003

ASSIGNEE:  
HITACHI UNISIA AUTOMOTIVE, LTD.  
1370, ONNA, ATSUGI-SHI  
KANAGAWA, JAPAN

014587/0436 PAGE 2

SERIAL NUMBER: 10617723

FILING DATE: 07/14/2003

PATENT NUMBER:

ISSUE DATE:

TITLE: APPARATUS AND METHOD FOR ESTIMATING RESIDUAL GAS AMOUNT OF INTERNAL  
COMBUSTION ENGINE, AND APPARATUS AND METHOD FOR CONTROLLING INTAKE  
AIR AMOUNT OF INTERNAL COMBUSTION ENGINE USING ESTIMATED RESIDUAL  
GAS AMOUNT

DOCKET NUMBER: 024536-0130

KIMBERLY WHITE, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

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(Rev 6-93)

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10-17-2003



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U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office

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To the Director of the United States Patent and Trademark Office.

Attached original documents or copies thereof.

## 1. Name of conveying party(ies):

Isamu IIZUKA (09/10/03)  
Kenichi MACHIDA (09/01/03)  
Hirokazu SHIMIZU (09/01/03)



## 2. Name and address of receiving party(ies):

HITACHI UNISIA AUTOMOTIVE, LTD.  
1370, Onna, Atsugi-shi  
Kanagawa Japan

Additional conveying party(ies)

NO

## 3. Nature of conveyance:

ASSIGNMENT

Execution Date:

see above dates

Additional name(s) &amp; address(es) attached?

NO

## 4. Application number(s) or patent number(s):

If this is being filed together with a new application, the execution date of the application is:

A. Patent Application Number(s):

10/617,723

B. Patent Number(s):

Additional numbers attached? NO

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Pavan K. Agarwal  
FOLEY & LARDNER  
Washington Harbour  
3000 K Street, N.W., Suite 500  
Washington, D.C. 20007-5143

## 6. Total number of applications/patents involved:

1

## 7. Total fee (37 C.F.R. § 3.41):

\$40.00

☒ Check Enclosed

Charge to deposit account

8. Deposit account number: 19-0741

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## 9. Statement and signature:

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. The Commissioner is hereby authorized to charge any additional recordation fees which may be required in this matter to the above-identified deposit account.

Pavan K. Agarwal

October 10, 2003

Name of person signing

Signature

Date

Total number of pages including cover sheet, attachments, and document: 3

10/16/2003 LMUELLER 00000214 10617723

01 FC:8021

40.00 00

# ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each undersigned inventor has sold and assigned, and by these presents hereby sells and assigns, unto

*name and address of assignee* **HITACHI UNISIA AUTOMOTIVE, LTD.  
1370, Onna, Atsugi-shi  
Kanagawa, Japan**

(hereinafter ASSIGNEE) all right, title and interest for the United States, its territories and possessions in and to this invention relating to

*title of invention*

**APPARATUS AND METHOD FOR ESTIMATING RESIDUAL GAS AMOUNT OF INTERNAL COMBUSTION ENGINE, AND APPARATUS AND METHOD FOR CONTROLLING INTAKE AIR AMOUNT OF INTERNAL COMBUSTION ENGINE USING ESTIMATED RESIDUAL GAS AMOUNT**

as set forth in this United States Patent Application

*check one* ☐ executed concurrently herewith  
☐ executed on \_\_\_\_\_  
☒ Serial No 10/617,723 filed July 14, 2003

in and to said United States Patent Application including any and all divisions or continuations thereof and in and to any and all Letters Patent of the United States which may issue on any such application or for said invention, including any and all reissues or extensions thereof, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made;

Each of the undersigned hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him relating to said invention or patent application and that he will execute and deliver any papers, make all rightful oaths, testify in any legal proceedings and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to perfect title to said invention, to said application including divisions and continuations thereof and to any and all Letters Patent which may be granted therefor or thereon, including reissues or extensions, in said ASSIGNEE, its successors, or assigns or to assist said

ASSIGNEE, its successors, legal representatives or assigns in obtaining, reissuing or enforcing Letters Patent of the United States for said invention;

Each of the undersigned hereby grants the firm of **FOLEY & LARDNER** the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment.

<b>NAMES AND SIGNATURES OF INVENTORS</b>		
Name: Isamu IIZUKA	Signature: <i>Isamu Iizuka</i>	Date: 9/10/03
Name: Kenichi MACHIDA	Signature: <i>Kenichi Machida</i>	Date: <del>9/1/03</del> <sup>9/1/03</sup> <i>Kenichi Machida</i>
Name: Hirokazu SHIMIZU	Signature: <i>Hirokazu Shimizu</i>	Date: 9/1/03
Name:	Signature:	Date:
Name:	Signature:	Date:
<b>NAMES AND SIGNATURES OF WITNESSES</b>		
Name: Nobuko KURITA	Signature: <i>Nobuko Kurita</i>	Date: 9/10/2003
Name: Kaoru OSAKI	Signature: <i>Kaoru Osaki</i>	Date: 9/1/2003

Note: *Prima facie* evidence of execution may optionally be obtained by execution of this document before a U.S. Consul or before a local officer authorized to administer oaths whose authority is proved by a certificate from a U.S. Consul.





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## Patent Assignment Details

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Reel/Frame: 011938/0512

Recorded: 06/25/2001

Page

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Total properties: 1

1 Patent #: 6484676 Issue Dt: 11/26/2002 Application #: 09887125 Filing Dt: 06/25/2002  
Publication #: US20020000212 Pub Dt: 01/03/2002

Title: APPARATUS AND METHOD FOR CONTROLLING VARIABLE VALVE TIMING OF INTERNAL COMBUSTION ENGINE

## Assignors

1 SHIMIZU, HIROKAZU

Exec Dt: 05/25/2001

2 IIZUKA, ISAMU

Exec Dt: 05/25/2001

## Assignee

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**Reel/Frame:** 011938/0512**Recorded:** 06/25/2001**Page****Conveyance:** ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).**Total properties:** 1**1 Patent #:** 6484676 **Issue Dt:** 11/26/2002 **Application #:** 09887125 **Filing Dt:** 06/25/2001**Publication #:** US20020000212 **Pub Dt:** 01/03/2002**Title:** APPARATUS AND METHOD FOR CONTROLLING VARIABLE VALVE TIMING OF INTERNAL COMBUSTION ENGINE**Assignors****1** SHIMIZU, HIROKAZU**Exec Dt:** 05/25/2001**2** IIZUKA, ISAMU**Exec Dt:** 05/25/2001**Assignee****1** UNISIA JECS CORPORATION

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Reel/Frame: 013913/0902

Recorded: 04/02/2003

Pages: 12

Conveyance: CHANGE OF NAME (SEE DOCUMENT FOR DETAILS).

**Total properties: 1****1 Patent #:** 6176217 **Issue Dt:** 01/23/2001 **Application #:** 09384030 **Filing Dt:** 08/26/1999**Title:** FUEL VAPOR PROCESSING APPARATUS AND METHOD OF INTERNAL COMBUSTION ENGINE**Assignor****1** UNISIA JECS CORPORATION**Exec Dt:** 02/28/2003**Assignee****1** HITACHI UNISIA AUTOMOTIVE, LTD.

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